

**WEST**☐ Generate Collection

L6: Entry 9 of 53

File: USPT

Oct 17, 2000

DOCUMENT-IDENTIFIER: US 6132742 A

TITLE: Cosmetic composition in the form of a soft paste

## ABPL:

The present invention relates to a cosmetic or dermatopharmaceutical composition in the form of a soft paste, which can be used for making up or treating the skin or lips, comprising, in a fatty phase, from 12% to 60% by weight, relative to the total weight of the composition, of at least one wax having a melting point above 55.degree. C., the said composition having a dynamic viscosity at 25.degree. C. of between 3 and 30 pascal-seconds. The present invention also relates to the process for preparing this composition.

## PCPR:

The present invention relates to a composition in the form of a soft paste which can be taken up and applied for making up or treatment using an applicator such as a brush or a pen-style foam applicator, especially a lip rouge or lip treatment composition.

## BSPR:

Lip rouges can, in a known manner, take two forms: stick form and the form of a soft paste. The presentation in stick form, though widely used, has a number of drawbacks: it is difficult to impart a good outline to the lips using a stick, and the heat resistance of the stick is poor, which can cause it to soften and make it unusable.

## BSPR:

Lip rouges in the form of a soft paste are taken up with an applicator, thereby overcoming the drawbacks of lipsticks. However, hitherto, by the traditional processes of manufacture, only a small amount of waxes can be introduced into cosmetic compositions in the form of soft pastes since, with increasing amounts of waxes, the viscosity of the pastes is increased, making them difficult to take up and apply; and when large amounts of waxes are incorporated, a solid is generally obtained which is usable only in stick form.

## BSPR:

Now, waxes play an important part in the cosmetic qualities required of a cosmetic composition, in particular of a lip rouge, especially the qualities of consistency, creaminess, staying power of the applied film and thickness of the said film; the soft pastes obtained hitherto, for example according to Patents U.S. Pat. No. 5,085,855 and U.S. Pat. No. 4,935,228, do not generally contain waxes, or contain an amount of less than 12%, and they are consequently perceived by the user as being too oily, too shiny and lacking in staying power.

## DEPR:

The subject of the present invention is a cosmetic or dermatopharmaceutical composition in the form of a soft paste, which can be used for making up or treating the skin or lips, containing at least one wax in a fatty phase, characterized in that it contains from 12% to 60% by weight, relative to the total weight of the composition, of at least one wax having a melting point above 55.degree. C., and in that it has a dynamic viscosity at 25.degree. C. of between 3 and 30 pascal seconds, measured with a CONTRAVES TV rotational

viscometer equipped with an "MS-r4" moving element with a frequency of 60 Hz.

DEPR:

The composition according to the invention preferably contains 15 to 40% by weight of waxes having a melting point above 55.degree. C.

DEPR:

The composition according to the present invention having a wax content of greater than 12% by weight is capable, on application in a layer, for example to the lips, of forming a film having good staying power. Furthermore, since its dynamic viscosity is less than 30 pascal seconds, it can be readily taken up and applied using an applicator.

DEPR:

The composition according to the present invention is hence a soft paste whose viscosity can be measured, as opposed to the solid structure of a stick whose viscosity cannot be measured.

DEPR:

The waxes having a melting point above 55.degree. C. are preferably waxes having a melting point of between 55 and 110.degree. C. and a needle penetration value at 25.degree. C. of between 3 and 40 as measured according to French Standard NFT 004 or American Standard ASTM D5. According to these standards, the needle penetration value is the measurement of the depth, expressed in tenths of a millimetre, to which a standardized needle weighing 2.5 g placed in a needle holder weighing 47.5 g (equivalent in total to 50 g) penetrates when placed on the wax to be tested for 5 seconds. According to the invention, the wax can be an animal, vegetable, mineral or synthetic wax. Among animal waxes, beeswaxes may be mentioned in particular. Among vegetable waxes, carnauba, candelilla and ouricury waxes, cork fibre waxes, sugar-cane waxes and Japan waxes may be mentioned inter alia. Among mineral waxes, paraffin waxes, microcrystalline waxes, lignite waxes and ozokerites may be mentioned especially. Among synthetic waxes, polyethylene waxae and the waxes obtained by Fischer-Tropsch synthesis may be mentioned in particular. All these waxes are well known to a person skilled in the art. It should be noted that lanolin wax does not correspond to the definition of waxes given above.

DEPR:

The fatty phase of the composition can contain, in a known manner, apart from the abovementioned wax(es), at least one fatty constituent having a melting point below 55.degree. C.; this fatty constituent can be an oil or a fat.

DEPR:

Among oils capable of being used mixed with the wax(es), special mentioned may be made of the following:

DEPR:

Among fats capable of being used mixed with the wax(es), special mention may be made of the following:

DEPR:

Hitherto, to prepare cosmetic or dermopharmaceutical compositions in the form of soft paste not containing waxes or containing a small proportion of wax(es), the pigment and/or the filler were dispersed in the fatty phase.

DEPR:

Moreover, to manufacture traditional lipsticks containing waxes, the following procedure was adopted:

DEPR:

In this process, the two successive quenchings enable the wax(es) to form a crystalline network, and consequently enable a solid product to be obtained.

DEPR:

According to the present invention, it was found to be possible to obtain soft

pastes having a high wax content by kneading the paste during the cooling, that is to say the paste is kneaded during at least a part of the cooling in order to create zones of crushing of the paste in the bulk. It should be noted that a suitable soft paste cannot be obtained by simple stirring with shearing using a stirrer.

DEPR:

Consequently, the subject of the present invention is also a process for the manufacture of a composition as defined above, in which a mixture of 12-60% by weight of at least one wax having a melting point above 55.degree. C. and at least one component taken from the group composed of fatty constituents, pigments, fillers and additives is prepared and then cooled, characterized in that the said mixture is subjected to a kneading for at least a part of the cooling.

DEPR:

It appears that, under these conditions, the wax crystallizes in the form of fine crystals, which would explain the fact that the composition remains in the form of a soft paste. This hypothesis must not, however, be considered in any way to limit the invention.

DEPR:

To perform the kneading, it is possible, in particular, to use two types of apparatus: a roll mill containing two counter-rotating rolls between which the paste passes, and a screw extruder-mixer. It is preferable to use an extruder-mixer, since a paste of very consistent quality is obtained reproducibly. Furthermore, it is possible, by adapting the exit die of the extruder-mixer, to package the composition in line at the exit of the said extruder-mixer.

DEPR:

According to the invention, it is preferable to use a cooker-extruder-mixer containing, in an outer barrel equipped on the exit side with an extrusion die, one (or two) shaft(s) driven in rotation so that the peripheral structure of one shaft cooperates with the outer barrel and, where appropriate, with the peripheral structure of the other shaft to effect the mixing and kneading of the paste and its movement along the barrel towards the extrusion die.

DEPR:

According to a first embodiment, the invention relates to a process of the type defined above, characterized in that in a first step, the mixing of all the constituents of the composition is carried out at a temperature at which the wax(es) is/are molten, and, in a second step, the hot mixture obtained is introduced into a roll mill or into a screw extruder-mixer.

DEPR:

According to another embodiment, the process according to the invention is characterized in that a mixture of the non-pulverulent constituents of the composition is introduced at the head of a screw extruder-mixer at a temperature at which the wax(es) is/are molten, and the pulverulent constituents of the composition are introduced into the said screw extruder-mixer at one or more-points before the extrusion die.

DEPR:

The preparation of the compositions according to the invention defined in Examples 1 to 3 below is performed in a twin-screw cooker-extruder-mixer (type "BC 21" of the company "CLEXTRAL"), the structure of which is outlined below:

DEPR:

A soft paste having a dynamic viscosity of 17 Pa.s, measured using a CONTRAVES TV rotational viscometer equipped with an "MS-r4" moving element with a frequency of 60 Hz, is obtained, which paste can be readily taken up using a brush for the dermatopharmaceutical treatment of the lips.

DEPR:

The waxes were then introduced into the preheated mixture, and the whole was introduced at the head of the extruder-mixer.

DEPR:

A soft paste having a dynamic viscosity of 24 Pa.s, measured using a CONTRAVES TV rotational viscometer equipped with an "MS-r4" moving element with a frequency of 60 Hz, was obtained which paste could be readily taken up using a pen-style foam applicator for making up the lips.

DEPR:

A premix was prepared at 100.degree. C. with the fatty constituents, the wax and the additive, and this premix was introduced via a first orifice at the extruder head. The pigments were introduced at the extruder head via a second orifice, and the fillers were introduced 100 mm upstream of the die via a third orifice.

DEPR:

A soft paste having a dynamic viscosity of 8 Pa.s, measured using a CONTRAVES TV rotational viscometer equipped with an "MS-r4" moving element with a frequency of 60 Hz, was obtained, which paste could be readily taken up using a pen-style foam applicator for making up the lips.

DEPL:

This composition contains 30% by weight of waxes.

DEPL:

This composition contains 40% by weight of waxes.

DEPL:

This composition contains 17% by weight of wax.

DEPV:

in a first step, a paste consisting of at least one fatty constituent and of at least one wax, the said paste optionally containing pigments and/or fillers and/or other additives, was heated to a temperature above the highest melting point of the waxes, termed finishing temperature,

DEPV:

in a second step, the paste heated to the finishing temperature is poured into a mould, which is equivalent to a first quenching, and the mould is then cooled, constituting a second quenching.

DEPV:

Microcrystalline wax . . . 15%

DEPV:

Carnauba wax . . . 15%

DEPV:

Polyethylene wax . . . 20%

DEPV:

Microcrystalline wax . . . 17%

CLPR:

1. A cosmetic or dermopharmaceutical composition in the form of a soft paste, which can be used for making up or treating the skin or lips, said soft paste consisting of a fatty phase containing 12% to 60% by weight, relative to the total weight of the composition, of at least one wax having a melting point above 55.degree. C., said soft paste having a dynamic viscosity at 25.degree. C. of between 3 and 30 Pa.s,

CLPR:

2. The composition according to claim 1, said wax being present in an amount of from 15% to 40% by weight, relative to the total weight of the composition.

CLPR:

3. The composition according to claim 1 wherein said at least one wax has a melting point of between 55 to 110.degree. C. and a needle penetration value of between 3 and 40 as measured according to French Standard NFT 004.

CLPR:

4. The composition according to claim 1 wherein said at least one wax is selected from the group consisting of beeswaxes, carnauba, candelilla and ouricury waxes, cork fiber waxes, sugar-cane waxes, Japan waxes, microcrystalline waxes, lignite waxes, ozokerites, polyethylene waxes and the waxes obtained by Fischer-Tropsch synthesis.

CLPR:

5. A cosmetic or dermopharmaceutical composition in the form of a soft paste, which can be used for making up or treating the skin or lips, said soft paste being substantially anhydrous, consisting of at least one wax in a fatty phase, containing 12% to 60% by weight, relative to the total weight of the composition, of at least one wax having a melting point above 55.degree. C., said soft paste having a dynamic viscosity at 25.degree. C. of between 3 and 30 Pa.s, wherein said fatty phase contains at least one fatty constituent other than a wax, said fatty constituent having a melting point below 55.degree. C.,

CLPR:

18. A cosmetic or dermopharmaceutical composition in the form of a soft paste, which can be used for making up or treating the skin or lips, said soft paste consisting of a fatty phase containing 12% to 60% by weight, relative to the total weight of the composition, of at least one wax having a melting point above 55.degree. C., said soft paste having a dynamic viscosity at 25.degree. C. of between 3 and 30 Pa.s, wherein said fatty phase contains at least one fatty constituent other than a wax, said fatty constituent having a melting point below 55.degree. C.,

CLPV:

wherein said paste is formed by heating said at least one wax in said fatty phase above the melting point of said at least one wax, and

CLPV:

cooling said wax while kneading during at least a part of said cooling such that said soft paste is formed.

CLPV:

wherein said paste is formed by heating said at least one wax in said fatty phase above the melting point of said at least one wax, and

CLPV:

cooling said wax while kneading during at least a part of said cooling such that said soft paste is formed.

CLPV:

wherein said paste is formed by heating said at least one wax in said fatty phase above the melting point of said at least one wax, and

CLPV:

cooling said wax while kneading during at least a part of said cooling such that said soft paste is formed.

CCOR:

424/401

CCXR:

424/63

CCXR:  
424/64

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L6: Entry 16 of 53

File: USPT

Mar 28, 2000

DOCUMENT-IDENTIFIER: US 6042842 A

TITLE: Cosmetic composition comprising a novel pigment

## BSPR:

The composition of the invention can be provided in the form of a product to be applied to the lips, eyes, skin and/or superficial body growths. It thus comprises a cosmetically acceptable medium, that is to say a medium compatible with all keratinous substances, such as the skin, both of the human body and of the face, nails, hair, eyelashes and eyebrows. This medium can comprise or be provided in particular in the form of a suspension, dispersion or solution in solvent or aqueous or aqueous/alcoholic medium, optionally thickened or even gelled; an oil-in-water, water-in-oil or multiple emulsion; a gel or foam; an emulsified gel; a dispersion of vesicles, in particular of ionic or non-ionic lipids; a two-phase or multiple-phase lotion; a spray; a loose, compacted or cast powder; or an anhydrous paste. A person skilled in the art can choose the appropriate dosage form, such as pharmaceutical dosage form, as well as its method of preparation, on the basis of his broad knowledge, taking into account, on the one hand, the nature of the constituents used, in particular their solubility in the vehicle, and, on the other hand, the application envisaged for the composition.

## BSPR:

The composition according to the invention may also comprise a fatty phase, composed in particular of fatty substances which are liquid at room temperature (generally 25.degree. C.) and/or of fatty substances which are solid at room temperature, such as waxes, pasty fatty substances, gums and mixtures thereof.

## BSPR:

Preferred fatty substances which are liquid at room temperature, often known as oils, which can be used in the invention, are, for example: hydrocarbon-comprising oils of animal origin, such as perhydosqualene; vegetable hydrocarbon-comprising oils, such as liquid triglycerides of fatty acids comprising 4 to 10 carbon atoms, such as triglycerides of heptanoic or octanoic acids, or sunflower, maize, soybean, grapeseed, sesame, apricot, macadamia, castor or avocado oils, triglycerides of caprylic/capric acids, jojoba oil or karite butter; linear or branched hydrocarbons of mineral or synthetic origin, such as liquid paraffins and derivatives thereof, petroleum jelly, polydecenes or hydrogenated polyisobutene, such as parleam; synthetic esters and ethers, in particular of fatty acids, such as, for example, purcellin oil, isopropyl myristate, 2-ethylhexyl palmitate, 2-octyldodecyl stearate, 2-octyldodecyl erucate or isostearyl isostearate; hydroxylated esters, such as isostearyl lactate, octyl hydroxystearate, octyldodecyl hydroxystearate, diisostearyl maleate, triisocetyl citrate or heptanoates, octanoates or decanoates of fatty alcohols; polyol esters, such as propylene glycol dioctanoate, neopentyl glycol diheptanoate, diethylene glycol diisononanoate and pentaerythritol esters; fatty alcohols having from 12 to 26 carbon atoms, such as octyldodecanol, 2-butyloctanol, 2-hexyldecanol, 2-undecylpentadecanol or oleyl alcohol; partially hydrocarbon-comprising and/or silicone-comprising fluorinated oils; silicone oils, such as linear or cyclic, volatile or non volatile polydimethylsiloxanes (PDMS) which are liquid or pasty at room temperature, such as cyclomethicones, dimethicones, optionally comprising a phenyl group, such as phenyl trimethicones,

phenyltrimethylsiloxydiphenylsiloxanes, diphenylmethyldimethyltrisiloxanes, diphenyl dimethicones, phenyl dimethicones or polymethylphenylsiloxanes; or mixtures thereof.

**BSPR:**

The composition of the invention can advantageously comprise a solid or pasty fatty phase comprising one or more gums and/or one or more waxes. The waxes can be hydrocarbon-comprising, fluorinated, and/or silicone waxes and can be vegetable, mineral, animal, and/or synthetic in origin. The waxes in particular exhibit a melting temperature of greater than 25.degree. C. and preferably greater than 45.degree. C.

**BSPR:**

Preferred waxes which can be used in the composition of the invention, are, for example, beeswax, carnauba or candelilla wax, paraffin wax, microcrystalline waxes, ceresin or ozokerite; synthetic waxes, such as polyethylene or Fischer-Tropsch waxes, and silicone waxes, such as alkyl or alkoxy dimethicones having from 16 to 45 carbon atoms.

**BSPR:**

The gums are generally high molecular weight PDMS gums and the pasty substances are generally hydrocarbon-comprising compounds, such as lanolins and derivatives thereof, or PDMS compounds.

**BSPR:**

The nature and the amount of the solid substances depend on the mechanical and textural properties desired. The waxes may be present in an amount ranging from 0 to 50% by weight of waxes with respect to the total weight of the composition and preferably from 5 to 30%.

**BSPR:**

The composition may be in the form of a powder, a cream, an ointment, a fluid lotion, a supple paste with a dynamic viscosity ranging from 1 to 40 Pa.s, measured at 25.degree. C. with a Contraves TV rotary viscometer having a Ms-r3 or Ms-r4 rotating element at a frequency of 60 Hz, or a salve, a cast or a moulded solid, in particular as a stick or in a dish.

**BSPR:**

The composition of the invention may be obtained by heating the various constituents to the melting temperature of the highest-melting waxes and then casting the molten mixture in a mould (dish or thimble). It can also be obtained by extrusion, as disclosed in Application EP-A-667,146, the disclosure of which is specifically incorporated by reference herein.

**DEPV:**

passing the mixture 3 times in succession through a triple roll mill,

**DETL:**

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Polyethylene wax 14 g Sesame oil 78 g  
DPP pigment (Formula B) 5 g Titanium dioxide 3 g

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**CLPR:**

10. The composition according to claim 1, wherein said composition further comprises a medium in the form of a suspension, a dispersion or solution in organic solvent or aqueous/alcoholic medium, optionally thickened or gelled; an oil-in-water, water-in-oil or multiple emulsion; a gel or foam; an emulsified gel; a dispersion of vesicles; a two-phase or multiple-phase lotion; a spray; a loose, compacted or cast powder; or an anhydrous paste.

**CLPR:**

15. The composition according to claim 1, further comprising a fatty phase, wherein said fatty phase is chosen from oils, waxes, gums, and pasty fatty substances.



CLPR:

28. The composition according to claim 15, wherein said waxes are chosen from beeswax, carnauba wax, candelilla wax, paraffin wax, microcrystalline waxes, ceresin, ozokerite; synthetic waxes and silicone waxes.

CLPR:

29. The composition according to claim 28, wherein said synthetic waxes are chosen from polyethylene and Fischer-Tropsch waxes, and wherein said silicone waxes are selected from alkyl and alkoxy dimethicones having from 16 to 45 carbon atoms.

CLPR:

30. The composition according to claim 15, wherein said waxes are present in an amount ranging from 0 to 50% by weight of waxes with respect to the total weight of the composition.

CLPR:

31. The composition according to claim 30, wherein said waxes are present in an amount ranging from 5 to 30%.

CLPR:

32. The composition according to claim 15, wherein said gums and pasty substances are chosen from hydrocarbon-comprising compounds and polydimethylsiloxane compounds.

CCOR:

424/401

CCXR:

424/400

CCXR:

424/63

CCXR:

424/64

**WEST**

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L6: Entry 18 of 53

File: USPT

Oct 26, 1999

DOCUMENT-IDENTIFIER: US 5972318 A

TITLE: Transfer-free make-up or care composition containing alkylpolysiloxane

## ABPL:

A transfer-free composition, in particular, an anhydrous composition in stick form, containing (a) at least one silicone which is volatile at ambient temperature, which at least one silicone comprises a silicone structure and at least one unit containing at least one alkyl chain which is pendent and/or at the end of the silicone structure, the at least one chain being linear or branched with 3 to 10 carbon atoms, and (b) at least one silicone wax which is solid or semisolid at ambient temperature, which at least one silicone wax comprises a silicone structure and at least one unit containing at least one alkyl or alkoxy chain which is pendent and/or at the end of the silicone structure, the at least one chain being linear or branched with 10 to 45 carbon atoms. This composition can be a lip care or make-up composition or a foundation composition for the make-up of both the face and the human body.

## BSPR:

Lip rouge and foundation compositions generally include fatty substances such as oils, pasty compounds and waxes, and a particulate phase generally composed of fillers and pigments. When applied to the skin or the lips, these compositions exhibit the disadvantage of transferring, i.e., being deposited at least partially, i.e., leaving a mark, on some substrates with which they can come into contact, especially a glass, a cup, a garment or the skin. This results in a mediocre durability of the film on the skin or on the lips, which makes it necessary to renew application of the foundation or lip rouge composition at regular intervals. Furthermore, the appearance of unacceptable marks on some garments and especially on blouse collars can inhibit some women from employing make-up of this type.

## BSPR:

Thus, the subject-matter of the present invention is a transfer-free make-up or care composition containing (a) at least one silicone which is volatile at ambient temperature, which at least one silicone comprises a silicone structure and at least one unit containing at least one alkyl chain which is pendent and/or at the end of the silicone structure, wherein the at least one alkyl chain is linear or branched and contains from 3 to 10 carbon atoms, and (b) at least one silicone wax which is solid or semisolid at ambient temperature, which at least one silicone wax comprises a silicone structure and at least one unit containing at least one alkyl or alkoxy chain which is pendent and/or at the end of the silicone structure, wherein the at least one chain is linear or branched and contains from 10 to 45 carbon atoms.

## BSPR:

The use of a silicone wax containing an alkyl chain and of polymeric nature contributes some elasticity to the film, making it more comfortable. In addition, the combined use of a volatile silicone and a silicone wax, both containing an alkyl chain, ensures good compatibility and good homogeneity of the mixture when the composition is being manufactured, without exuding oil (in the case where oil is present) or crystallization of wax during the manufacture and in the course of time. In addition, this combined use of alkylated silicones makes it possible to introduce into the composition both hydrocarbon adjuvants and silicone adjuvants containing linear or branched

alkyl chains, like copolymers, and hence to adapt the properties of the film, especially insofar as the comfort on the lips or the skin of human beings is concerned. The adjuvants must, of course, not be detrimental to the homogeneity, the stability and the "nontransfer" property of the composition.

BSPR:

Pigments should be understood to mean inorganic or organic, white or colored particles which are insoluble in the wax and the volatile silicone and intended to color and/or opacify the composition. Fillers should be understood to mean lamellar or nonlamellar, inorganic or synthetic, colorless or white particles. Mothers-of-pearl should be understood to mean iridescent particles produced especially by certain mollusks in their shell, or else synthesized. These fillers and mothers-of-pearl are used to modify the texture of the composition and the matteness/gloss effect.

BSPR:

The composition according to the invention can be manufactured conventionally by heating a mixture of a paste of one or more waxes, of one or several volatile silicones and optionally one or more pigments, one or more fillers and/or one or several other additives at a temperature which is higher than the highest melting temperature of the waxes, and then casting the molten mixture in a mold. This process makes it possible to obtain a composition in a solid form, i.e., in the form of a stick or of a small dish.

BSPR:

The present composition can also be obtained by extrusion, as described in European Patent Application EP-A-667 146, the disclosure of which is hereby incorporated by reference. This process involves blending the paste (waxes+volatiles+additives) during the cooling to create, in the bulk, regions of crushing of the paste with the aid of a roll mill or of a screw mixer-extruder. This process makes it possible to obtain a composition in the form of soft paste.

BSPR:

The silicone waxes must be solid or semisolid at ambient temperature. These waxes may be in the form of a paste or of a rigid solid. In particular, these waxes have a melting temperature higher than 25.degree. C. and, preferably, higher than 45.degree. C.

BSPR:

The silicone waxes of the composition of the invention may have the following formula (II): ##STR2## in which

BSPR:

Among the silicone waxes that can be employed in the invention, there may be mentioned behenoxydimethicone (with R.sub.4 =CH.sub.3 (CH.sub.2).sub.21, t=0, u=1, w=1, z<10) as sold by Goldschmidt under the name ABIL WAX 2440 (melting temperature of 35.degree. C.), stearyldimethicone (with u=0, v=w=0, R.sub.4 =CH.sub.3 and R.sub.3 =stearyl) such as that sold by Dow Corning under the name DC 2503, cetyldimethicone (with u=v=w=0, R.sub.4 =CH.sub.3 and R.sub.3 =cetyl) such as that sold by Goldschmidt under the name ABIL WAX 9814, stearylmethicone (with z=u=w=v=0, R.sub.4 =CH.sub.3 and R.sub.3 =stearyl) such as that sold by Goldschmidt under the name ABIL WAX 9809, C.sub.24 -C.sub.28, alkyl dimethicone (with u=v=w=0, R.sub.4 =CH.sub.3 and R.sub.3 is a C.sub.24 -C.sub.28 alkyl group and z<5) such as that sold by Goldschmidt under the name ABIL WAX 9810 (melting temperature of 60.degree. C.), C.sub.30 -C.sub.45 alkylmethicone (with z=u=v=w=0, R.sub.4 =CH.sub.3 and R.sub.3 =a C.sub.30 -C.sub.45 alkyl group) such as that sold by Goldschmidt under the name ABIL WAX 9811, and stearoxydimethicone (with z=u=v=w=0, R.sub.4 =CH.sub.3 and R.sub.3 =stearyl) such as that sold by Goldschmidt under the name ABIL WAX 2434 (melting temperature of 25.degree. C. and t=10).

BSPR:

It is also possible to employ silicone waxes which R.sub.4 and R'.sub.4 are a methyl group, u=w=v=0 and the other parameters of the formula and the melting

temperature of the wax are given in the table (I) below:

BSPR:

The composition according to the invention may advantageously include from 2 to 90% of the total weight of the composition, preferably 30 to 70%, of one or more silicone waxes, relative to the total weight of the composition.

BSPR:

Alkyldimethicone copolymers may be mentioned as other silicone waxes which can be employed in the invention. These copolymers are especially those described in documents EP-A-527594, U.S. Pat. No. 5 061 481, U.S. Pat. No. 5 397 566 and EP-A-527594, the disclosures of which are hereby incorporated by reference, and may have the following formula (III): ##STR3## in which

BSPR:

As a result of their asymmetric structure (R.sub.1 different from R.sub.2), these copolymers take the form of elastic wax, having intermediate consistency between a wax and gum (polydimethylsiloxane of high molecular weight) which are perfectly miscible with the alkyldimethicones described above. They strengthen the contribution of comfort of the film without detriment to the "nontransfer" property. These copolymers can be employed alone or as a mixture and advantageously in combination with one or more waxes of formula (II). These copolymers can contribute to the hardness of the stick and/or to the cosmetic qualities.

BSPR:

The composition of the invention may furthermore include, in addition to the volatile silicones mentioned above, the fatty substances which are usually employed in the field of application envisaged. As fatty substances there may be mentioned silicones in esterified or unesterified liquid form or in esterified solid form, such as a behenate dimethicone, nonsilicone fatty substances such as oils, pastes and vegetable, mineral, animal and/or synthetic waxes.

BSPR:

Among the nonsilicone fatty substances that may be mentioned are vegetable oils like castor, avocado and jojoba oil, fatty acid esters like isopropyl myristate, alcohols like octyl dodecanol or oleyl alcohol, acetylglycerides, alcohol or polyalcohol octanoates, decanoates or ricinoleates, fatty acid triglycerides like sesame oil, lanolins, hydrocarbons like petroleum, parleam oil and polyisobutene, beeswax, vegetable waxes such as carnauba or candelilla wax, mineral waxes, for example paraffin wax, lignite or microcrystalline waxes or ozokerites, and synthetic waxes like polyethylene waxes.

BSPR:

In particular, the composition according to the invention may include at least one of the abovementioned waxes, so as to ensure a good mechanical strength, especially when the composition is in the form of a stick.

BSPR:

In general, the composition may include from 0 to 30% of the total weight of the composition of at least one hydrocarbon wax and preferably from 5 to 25% by weight of hydrocarbon wax.

BSPR:

The compositions according to the invention may be in the form of a stick or a cake, or in the form of a flexible or cast paste, or even in the form of a gelled oily liquid or of a cream.

BSPR:

Another subject of the present invention is a transfer-free anhydrous lip rouge or foundation containing (a) at least one silicone which is volatile at ambient temperature, which at least one silicone comprises a silicone structure and at least one unit containing at least one alkyl chain which is pendent and/or at the end of the silicone structure, wherein the at least one

alkyl chain is linear or branched and contains from 3 to 10 carbon atoms, (b) at least one silicone wax which is solid or semisolid at ambient temperature, which at least one silicone wax comprises a silicone structure and at least one unit containing at least one alkyl or alkoxy chain which is pendent and/or at the end of the silicone structure, wherein the at least one chain is linear or branched and contains from 10 to 45 carbon atoms, and (c) pigments and/or fillers.

## BSPR:

Another subject of the present invention is the use of the combination of at least one silicone which is volatile at ambient temperature and of at least one silicone wax which is solid or semisolid at ambient temperature, in a composition in order to decrease the transfer and/or the migration of the composition, the at least one volatile silicone comprising a silicone structure and at least one unit containing an alkyl chain which is pendent and/or at the end of the silicone structure, wherein the at least one alkyl chain is linear or branched and contains from 3 to 10 carbon atoms, and the at least one silicone wax comprising a silicone structure and at least one unit containing at least one alkyl or alkoxy chain which is pendent and/or at the end of the silicone structure, wherein the at least one chain is linear or branched and contains from 10 to 45 carbon atoms.

## BSPR:

Another subject of the present invention is a method for limiting and/or preventing the transfer of a skin or lip make-up or care composition onto a substrate other than the skin and the lips. The method is drawn to introducing into the composition the combination of at least one silicone which is volatile at ambient temperature and of at least one silicone wax which is solid or semisolid at ambient temperature, in order to decrease the transfer and/or the migration of the composition, the at least one volatile silicone comprising a silicone structure and at least one unit containing at least one alkyl chain which is pendent and/or at the end of the silicone structure, wherein the at least one alkyl chain is linear or branched and contains from 3 to 10 carbon atoms, and the at least one silicone wax comprising a silicone structure and at least one unit containing at least one alkyl or alkoxy chain which is pendent and/or at the end of the silicone structure, wherein the at least one chain is linear or branched and contains from 10 to 45 carbon atoms.

## BSTL:

temperature	Reference Melting <u>wax</u> Z t R.sub.4
C. 2 95 5 >C.sub.30 60.degree. C. 3 90 10 C.sub.24 /C.sub.28 44.degree. C. 4 98 2 C.sub.24 /C.sub.28 41.degree. C. 5 95 5 C.sub.24 /C.sub.28 39.degree. C. 6 60 40 C.sub.24 /C.sub.28 57.degree. C. 7 60 40 >C.sub.30 60.degree. C.	1 60 40 C.sub.16 30.degree.

## DEPR:

As a comparative test, the above-prepared composition was applied to the left part of the lips of human subjects. For comparison, a lip rouge of the prior art, including no alkylated silicone wax, was applied to the right part of these lips.

## DEPR:

The wax was melted and the other constituents were then introduced in the following order: pigments, fillers, stabilizers, and the volatile silicone, and the whole was mixed. The mixture was then cast into suitable molds.

## DETL:

stearyldimethicone (T.sub.m = 28.degree. C.) 23 g	hexylheptamethyltrisiloxane q.s. 100 g
500 from Bareco) 23 g	polyethylene <u>wax</u> (POLYWAX 2 g
23 g pigments 8 g	natural mothers-of-pearl 2 g

## DETL:

hexylheptamethyltrisiloxane q.s. 100 g  
ABIL WAX 9810 25 g silicone, fluid at ambient temperature (ABIL WAX 9801) 5 g  
pigments 8 g titanium mica 2 g \_\_\_\_\_

DETL:

octylheptamethyltrisiloxane q.s. 100 g  
ABIL WAX 9810 30 g polyethylene waxes (POLY WAX 500 from Bareco) 10 g fillers  
(nylon powder) 5 g \_\_\_\_\_

DETL:

stearyltrimethicone (silicone wax of  
T.sub.m = 35-40.degree. C.) 13.5 g hexylheptamethyltrisiloxane q.s. 100 g  
pigments 16.2 g fillers (ORGASOL) 16.7 g stabilizers q.s.

CLPR:

8. A composition according to claim 1, wherein said at least one silicone wax is a wax of formula (II) in which R.sub.3, R.sub.4 or R'.sub.4 is a radical C.sub.16 H.sub.33, C.sub.18 H.sub.37, C.sub.24 H.sub.49 or C.sub.26 H.sub.53 or a mixture of any of these radicals.

CLPR:

9. A composition according to claim 1, wherein said at least one silicone wax is present in an amount of from 2 to 90% of the total weight of the composition.

CLPR:

10. A composition according to claim 9, wherein said at least one silicone wax is present in an amount of from 30 to 70% of the total weight of the composition.

CLPR:

12. A composition according to claim 1, said composition further comprising hydrocarbon wax in an amount of from 0 to 30% of the total weight of the composition.

CLPR:

13. A composition according to claim 12, said composition further comprising hydrocarbon wax in an amount of from 5 to 25% of the total weight of the composition.

CLPR:

16. A composition according to claim 1, wherein said composition is in the form of a stick, a cake, a flexible or cast paste, a cream or a gel.

CLPR:

23. A method for preparing a composition for decreasing the transfer or migration of a composition, said method comprising combining at least one silicone which is volatile at ambient temperature with at least one silicone wax which is solid or semisolid at ambient temperature, wherein said at least one volatile silicone comprises a silicone structure and at least one unit containing an alkyl chain which is pendent or at the end of said silicone structure, said at least one alkyl chain being linear or branched and having from 3 to 10 carbon atoms, wherein said at least one silicone which is volatile at ambient temperature has the formula(I): ##STR9## in which R.sub.1, R'.sub.1 and R.sub.2 denote, independently of one another, a methyl group, hydrogen, or a linear or branched chain having from 3 to 10 carbon atoms,

CLPR:

29. A method according to claim 23, wherein said at least one silicone wax is a wax of formula (II) in which R.sub.3, R.sub.4 or R'.sub.4 is a radical C.sub.16 H.sub.33, C.sub.18 H.sub.37, C.sub.24 H.sub.49 or C.sub.26 H.sub.53 or a mixture of any of these radicals.

CLPR:

30. A method according to claim 23, wherein said at least one silicone wax is present in an amount of from 2 to 90% of the total weight of the composition.

CLPR:

31. A method according to claim 30, wherein said at least one silicone wax is present in an amount of from 30 to 70% of the total weight of the composition.

CLPR:

32. A method according to claim 23, said composition further comprising hydrocarbon wax in an amount of from 0 to 30% of the total weight of the composition.

CLPR:

33. A method according to claim 32, said composition further comprising hydrocarbon wax in an amount of from 5 to 25% of the total weight of the composition.

CLPR:

36. A method according to claim 23, wherein said composition is in the form of a stick, a cake, a flexible or cast paste, a cream or a gel.

CLPL:

wherein the combination of said at least one volatile silicone containing said C.sub.3 to C.sub.10 alkyl chain and at least one said silicone wax containing said C.sub.10 to C.sub.45 alkyl or alkoxy chain results in a transfer-free film which is comfortable on the skin or the lips.

CLPL:

wherein said at least one silicone wax has the formula (II): ##STR8## in which R.sub.3, R.sub.4 and R'.sub.4 denote, independently of one another, a methyl group, hydrogen or a linear or branched alkyl chain containing from 10 to 45 carbon atoms,

CLPL:

wherein the combination of said at least one volatile silicone containing said C.sub.3 to C.sub.10 alkyl chain and said at least one silicone wax containing said C.sub.10 to C.sub.45 alkyl or alkoxy chain results in a transfer-free film which is comfortable on the skin or the lips, and

CLPV:

(b) at least one silicone wax which is solid or semisolid at ambient temperature, said at least one silicone wax comprising a silicone structure and at least one unit containing at least one alkyl or alkoxy chain which is pendent or at the end of said silicone structure, said at least one alkyl or alkoxy chain being linear or branched and having from 10 to 45 carbon atoms,

CLPV:

wherein said at least one silicone wax has the formula (II): ##STR5## in which R.sub.3, R.sub.4 and R'.sub.4 denote, independently of one another, a methyl group, hydrogen or a linear or branched alkyl chain containing from 10 to 45 carbon atoms,

CLPV:

(b) at least one silicone wax which is solid or semisolid at ambient temperature, said at least one silicone wax comprising a silicone structure and at least one unit containing at least one alkyl or alkoxy chain which is pendent or at the end of said silicone structure, said at least one alkyl or alkoxy chain being linear or branched and having from 10 to 45 carbon atoms.

CLPV:

wherein the at least one silicone wax comprises a silicone structure and at least one unit containing at least one alkyl or alkoxy chain which is pendent or at the end of said silicone structure, said at least one chain being linear or branched and having from 10 to 45 carbon atoms, wherein said at least one

silicone wax has the formula (II): ##STR10## in which R.sub.3, R.sub.4 and R'.sub.4 denote, independently of one another, a methyl group, hydrogen or a linear or branched alkyl chain containing from 10 to 45 carbon atoms,

CLPV:

wherein the combination of said at least one volatile silicone containing said C.sub.3 to C.sub.10 alkyl chain and said at least one silicone wax containing said C.sub.10 to C.sub.45 alkyl or alkoxy chain results in a transfer-free film which is comfortable on the skin or the lips.

CLPV:

introducing into said composition a combination of at least one silicone which is volatile at ambient temperature and at least one silicone wax which is solid or semisolid at ambient temperature to decrease the transfer or the migration of said composition, said at least one volatile silicone comprising a silicone structure and at least one unit containing an alkyl chain which is pendent or at the end of said silicone structure, said at least one alkyl chain being linear or branched and having from 3 to 10 carbon atoms, wherein said at least one silicone which is volatile at ambient temperature has the formula (I): ##STR12## in which R.sub.1, R'.sub.1 and R.sub.2 denote, independently of one another, a methyl group, hydrogen, or a linear or branched chain having from 3 to 10 carbon atoms,

CLPV:

said at least one silicone wax comprising a silicone structure and at least one unit containing at least one alkyl or alkoxy chain which is pendent or at the end of said silicone structure, said at least one chain being linear or branched and having from 10 to 45 carbon atoms, wherein said at least one silicone wax has the formula (II): ##STR13## in which R.sub.3, R.sub.4 and R'.sub.4 denote, independently of one another, a methyl group, hydrogen or a linear or branched alkyl chain containing from 10 to 45 carbon atoms,

CLPV:

wherein the combination of said at least one volatile silicone containing said C.sub.3 to C.sub.10 alkyl chain and said at least one silicone wax containing said C.sub.10 to C.sub.45 alkyl or alkoxy chain results in a transfer-free film which is comfortable on the skin or the lips, and

CCOR:

424/64

CCXR:

424/401

CCXR:

424/63

CCXR:

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CCXR:

424/78.03

CCXR:

424/DIG.5



**WEST**

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TITLE: Solid or pasty make-up composition

ABPL:

A solid or pasty extruded homogeneous make-up composition containing a fatty phase and a pulverulent phase. The fatty phase is 20-70% by weight of the total weight of the composition. The pulverulent phase is a light powder having a specific gravity not exceeding 0.07, and can be silica powder or hollow microspheres made of thermoplastic material. The light powder is 5-30% by weight of the total weight of the composition. The weight ratio of the total pulverulent phase to the light powder is between 5 and 16.

BSPR:

It is known to prepare solid or pasty make-up compositions of two types containing pulverulent products:

BSPR:

According to the present invention it has been found that by employing a single- or twin-screw cooker-extruder mixer for the preparation of solvent-free cast or compacted compositions it is possible to obtain fully homogeneous compositions which can be employed for make-up, containing up to 30% by weight of powder with a relative density not exceeding 0.07.

BSPR:

The subject of the present invention is therefore a solid or pasty make-up composition containing a fatty phase and a pulverulent phase, the pulverulent phase consisting at least partially of a light powder, characterized in that the light powder has a relative density not exceeding 0.07 and represents from 5 to 30% by weight relative to the total weight of the composition, the weight ratio of the total pulverulent phase to the light powder being between 5 and 16 and in that the fatty phase represents from 20 to 70% by weight relative to the total weight of the composition.

BSPR:

Among the binders there may be mentioned, in particular, fatty oils or substances of animal, vegetable, mineral or synthetic origin, waxes or their mixtures.

BSPR:

The waxes may be chosen from the group made up of animal waxes, vegetable waxes, mineral waxes, synthetic waxes and various fractions of natural waxes. Among the animal waxes which can be employed there may be mentioned beeswax, lanolin waxes and Chinese insect waxes. Among vegetable waxes there may be mentioned carnauba, candelilla and ouricury wax, cork fibre waxes, sugar cane waxes, Japan waxes, hydrogenated jojoba waxes and hydrogenated oils which are obtained by catalytic hydrogenation of fatty substances composed of a C.sub.8 -C.sub.32 linear or nonlinear fatty chain and which have properties corresponding to the definition of waxes. There may be mentioned, in particular, hydrogenated sunflower oil, hydrogenated castor oil, hydrogenated copra oil and hydrogenated lanolin. Among the mineral waxes there may be mentioned paraffin waxes, microcrystalline waxes, montan waxes and ozokerites. Among the synthetic waxes there may be mentioned polyethylene waxes, the waxes obtained by the Fischer and Tropsch synthesis, waxy copolymers and their

esters and silicone waxes such as polyalkoxy- and polyalkylsiloxanes.

BSPR:

A process for the preparation of a homogeneous composition consisting of a fatty phase and of a pulverulent phase containing from 5 to 30% by weight of light powder which has a relative density not exceeding 0.07, is characterized in that the mixing is performed in a cooker-extruder mixer comprising one or two screws.

BSPR:

The operation is carried out in a twin-screw cooker-extruder mixer (type "BC 21" from the "Clextral" company), the structure of which is that shown diagrammatically below:

BSPV:

cast compositions, which are prepared by mixing a fatty phase in the molten state with pulverulent products, with or without volatile solvent;

DEPR:

The operation is carried out in the same cooker-extruder mixer as in Example 1, with the following screw structure:

DETL:

	Fatty phase:
	Polyethylene wax 4 Microcrystalline wax
1 Vaseline 7 Isostearyl neopentanoate	8.5 Liquid paraffin 15 Octyldodecanol 10
	Pulverulent phase:
	Yellow iron oxide 0.5 Brown/yellow iron
oxide 2.2 Titanium oxide 5 Lithol B calcium red lake on rosin 0.3 Nylon powder	
21 Microsphere which has a jacket made of vinylidene/ 8.5	
acrylonitrile/methacrylate copolymer and contains isobutane (0.036 relative	
density "Expancel") Propyl parahydroxybenzoate 0.2 Perfume 0.3	

DETL:

	Fatty phase
	2-Ethylhexyl palmitate 12.2
Hydrogenated isoparaffin 19.7 Stabilized isopropyl lanolate 5.8 Propyl	
para-hydroxybenzoate 0.3 Perfume 0.3 Microcrystalline wax 10 Carnauba wax 6	
	Pulverulent phase
	Yellow iron oxide 2.1 Brown/yellow iron
oxide 0.8 Black iron oxide 0.3 Titanium oxide 12 Nylon 12 powder 17.2	
Magnesium silicate 7 Microsphere which has a copolymer jacket 6	
(vinylidene/acrylonitrile/methacrylate) and contains isobutane (0.036 relative	
density "Expancel")	

CCOR:

424/401

CCXR:

424/489